IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Original): A method of forming a planar lipid-bilayer membrane for membrane protein analysis, the method comprising the steps of:

(a) filling a microchannel with a buffer solution, the microchannel being disposed under a horizontal partition wall having an aperture;

(b) applying a small amount of a lipid solution as a droplet to the aperture filled with the buffer solution to form a thin layer of the lipid solution in a chamber, the chamber being formed at a position corresponding to the aperture of the partition wall and being provided with a liquid trap on the partition wall inside the chamber; and

(c) applying a buffer solution as a droplet to the chamber from the upper side thereof.

Claim 2 (Original): The method of forming a planar lipid-bilayer membrane for membrane protein analysis according to claim 1, wherein the thickness of the thin layer of the lipid solution is controlled.

Claim 3 (Currently Amended): The method of forming a planar lipid-bilayer membrane for membrane protein analysis according to claim 1 ~~or 2~~, wherein the buffer solution contains a liposome (spherical vesicle of a lipid-bilayer membrane) incorporated with an objective membrane protein, and the liposome is fused with the planar lipid-bilayer membrane to incorporate the membrane protein into the planar lipid-bilayer membrane.

Claim 4 (Original): The method of forming a planar lipid-bilayer membrane for membrane protein analysis according to claim 1, wherein a plurality of the chambers are integrally formed.

Claim 5 (Original): The method of forming a planar lipid-bilayer membrane for membrane protein analysis according to claim 4, wherein the plurality of the chambers are formed in an array.

Claim 6 (Currently Amended): The method of forming a planar lipid-bilayer membrane for membrane protein analysis according to claim ~~4 or 5~~, wherein liposomes each containing a different protein are each applied to a different chamber, and different kinds of proteins are simultaneously measured.

Claim 7 (Currently Amended): The method of forming a planar lipid-bilayer membrane for membrane protein analysis according to claim ~~4 or 5~~, wherein the reaction/binding of different kinds of reagents or different kinds of proteins in each of the chambers are simultaneously measured.

Claim 8 (Currently Amended): The method of forming a planar lipid-bilayer membrane for membrane protein analysis according to claim ~~4 or 5~~, wherein the temperature of each chamber is independently controlled, liposomes each containing a different protein are each applied to a different chamber, and the proteins different in temperature are simultaneously measured.

Claim 9 (Original): A device for forming a planar lipid-bilayer membrane for membrane protein analysis, the device comprising:

(a) a substrate;

(b) a partition wall disposed over the substrate so as to be parallel to the substrate;

(c) a microchannel defined by the substrate and the partition wall;

(d) a chamber provided with an aperture formed in the partition wall and a liquid trap formed at the periphery of the aperture; and

(e) a microinjection device for applying droplets of a lipid solution and a buffer solution to the chamber from the upper side of the chamber.

Claim 10 (Original): The device for forming a planar lipid-bilayer membrane for membrane protein analysis according to claim 9, the device further comprising a first thin-film electrode disposed on the substrate at the position corresponding to the chamber and a second thin-film electrode disposed near the liquid trap.

Claim 11 (Currently Amended): The device for forming a planar lipid-bilayer membrane for membrane protein analysis according to claim 9 ~~or 10~~, wherein the partition wall has a channel connected to the liquid trap for controlling the thickness of the layer of the lipid solution.

Claim 12 (Currently Amended): The device for forming a planar lipid-bilayer membrane for membrane protein analysis according to claim 9 ~~or 10~~, wherein a plurality of the chambers are integrally formed.

Claim 13 (Original): The device for forming a planar lipid-bilayer membrane for membrane protein analysis according to claim 12, wherein the plurality of the chambers are formed in an array.

Claim 14 (Currently Amended): The device for forming a planar lipid-bilayer membrane for membrane protein analysis according to claim 12 ~~or 13~~, wherein the microinjection device further includes a cover for positioning the microinjection device relative to each chamber.

Claim 15 (Currently Amended): The device for forming a planar lipid-bilayer membrane for membrane protein analysis according to claim 12 ~~or 13~~, the device further comprising a means for applying liposomes each containing a different protein to the respective chambers and simultaneously measuring the different kinds of proteins.

Claim 16 (Currently Amended): The device for forming a planar lipid-bilayer membrane for membrane protein analysis according to claim 12 ~~or 13~~, the device further comprising a means for independently controlling the temperature of each chamber in an array, applying liposomes each containing a different protein to the respective chamber, and simultaneously measuring the proteins different in temperature.

Claim 17 (Original): The device for forming a planar lipid-bilayer membrane for membrane protein analysis according to claim 9, wherein the aperture is provided with a taper so that the diameter of the aperture narrows from the lower side toward the upper side.

Claim 18 (Original): The device for forming a planar lipid-bilayer membrane for membrane protein analysis according to claim 9, wherein the partition wall is formed of a silicon substrate and the aperture is formed by etching the silicon substrate.

Claim 19 (Original): The device for forming a planar lipid-bilayer membrane for membrane protein analysis according to claim 10, the device further comprising a means for measuring a property of the membrane protein by applying a voltage between the first thin-film electrode and the second thin-film electrode.